

## CLAIMS

What is claimed is:

1. In a multi-CPU receiving node of a network, a method for routing a SCCP (Signaling Connection Control Part) message to a specific CPU in said multi-CPU receiving node, comprising:

applying a mathematical function to information received in said SCCP message to obtain a result, said information including a first value obtained in a first field of said SCCP message and a second value obtained in a second field of said SCCP message; and

employing said result to route said SCCP message to said specific CPU.

2. The method of claim 1 wherein said first value represents a Signaling Link Selection (SLS) value, said second value represents an OPC (Originating Point Code) value.

3. The method of claim 2 wherein said applying includes performing a modulo operation on said first value and said second value.

4. The method of claim 3 wherein said modulo operation is

$$\text{Mod}_{(X)} (Y + Z)$$

wherein said X represents a number of CPU to be load distributed in said multi-CPU receiving node, said X represents a base value for said modulo operation, said Y represents said SLS value, said Z represents said OPC value, and said Y+Z represents an operand for said modulo operation.

5. The method of claim 1 wherein said first value represents a Signaling Link Selection (SLS) value.

6. The method of claim 1 wherein said mathematical function represents a function that provides a deterministic result when said first value is a first specific number and said second value is a second specific number.

7. A telecommunication network having at least one multi-CPU receiving node, said multi-CPU receiving node receiving a plurality of message streams, at least one of said plurality of message streams comprising a plurality of messages, comprising:

programmable logic in said multi-CPU receiving node for obtaining a first value and a second value from a SCCP message received at said multi-CPU receiving node; and

programmable logic in said multi-CPU receiving node for obtaining a deterministic result from said first value and said second value, wherein said deterministic result is employed to determine which CPU of said multi-CPU receiving node receives said SCCP message.

8. The telecommunication network of claim 7 wherein said programmable logic for obtaining said deterministic value includes programmable logic for applying a mathematical function to said first value and said second value.

9. The telecommunication network of claim 8 wherein said second value represents an OPC (Originating Point Code) value.

10. The telecommunication network of claim 9 wherein said first value represents a Signaling Link Selection (SLS) value.

11. The telecommunication network of claim 10 wherein said programmable logic for applying a mathematical function includes programmable logic for performing a modulo operation on said first value and said second value, said modulo operation being

$$\text{Mod}_{(x)} (Y + Z)$$

wherein said X represents a number of CPU to be load distributed in said multi-CPU receiving node, said X represents a base value for said modulo operation, said Y represents said SLS value, said Z represents said OPC value, and said Y+Z represents an operand for said modulo operation.

12. The telecommunication network of claim 7 wherein said programmable logic for obtaining said deterministic value includes programmable logic for performing table look up to determine said deterministic value as a function of said first value and said second value.

13. The telecommunication network of claim 12 wherein said second value represents an OPC (Originating Point Code) value.

14. The telecommunication network of claim 13 wherein said first value represents a Signaling Link Selection (SLS) value.

15. In a multi-CPU receiving node of a network, a method for routing a SCCP (Signaling Connection Control Part) message to a specific CPU in said multi-CPU receiving node, comprising:

applying a mathematical function to information received in said SCCP message to obtain a result, said information including a first value obtained in a first field of said SCCP message, said mathematical function ensuring that a load on any CPU in said multi-CPU receiving node differs by no more than 25% when sampled over a continuous 24-hour period from a load on any other CPU in said multi-CPU receiving node that is designated for load sharing SCCP message processing, said mathematical function further ensuring that messages belonging to a given SCCP message stream are routed to a single CPU of said multi-CPU receiving node; and

employing said result to route said SCCP message to said specific CPU.

16. The method of claim 15 wherein said first value represents an OPC (Originating Point Code) value.

17. The method of claim 16 wherein said second value represents a Signaling Link Selection (SLS) value.

18. The method of claim 15 wherein said mathematical function ensures that said load on said any CPU in said multi-CPU receiving node differs by no more than 5% when sampled over said continuous 24-hour period from said load on said any other CPU in said multi-CPU receiving node that is designated for said load sharing SCCP message processing.

19. The method of claim 15 wherein said mathematical function ensures that said load on said any CPU in said multi-CPU receiving node differs by no more than 2% when sampled over said continuous 24-hour period from said load on said any other CPU in said multi-CPU receiving node that is designated for said load sharing SCCP message processing.

20. An article of manufacture comprising a program storage medium having computer readable code embodied therein, said computer readable code being configured to route a SCCP (Signaling Connection Control Part) message to a specific CPU in a multi-CPU receiving node, comprising:

computer readable code for applying a mathematical function to information received in said SCCP message to obtain a result, said information including a first value obtained in a first field of said SCCP message and a second value obtained in a second field of said SCCP message; and

computer readable code for employing said result to select said CPU for routing said SCCP message.

21. The article of manufacture of claim 20 wherein said first value represents a Signaling Link Selection (SLS) value, said second value represents an OPC (Originating Point Code) value.

22. The article of manufacture of claim 21 wherein said computer readable code for applying includes computer readable code for performing a modulo operation on said first value and said second value.

23. The article of manufacture of claim 22 wherein said modulo operation is

$$\text{Mod}_{(X)} (Y + Z)$$

wherein said X represents a number of CPU to be load distributed in said multi-CPU receiving node, said X represents a base value for said modulo operation, said Y represents said SLS value, said Z represents said OPC value, and said Y+Z represents an operand for said modulo operation.

24. The article of manufacture of claim 20 wherein said first value represents a Signaling Link Selection (SLS) value.

25. The article of manufacture of claim 20 wherein said mathematical function represents a function that provides a deterministic result when said first value is a first specific number and said second value is a second specific number.